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GENERAL GUIDANCE ON RISK MANAGEMENT PROGRAMS FOR CHEMICAL ACCIDENT PREVENTION (40 CFR PART 68)

RMP SERIES

Chemical Emergency Preparedness and Prevention Office

ABOUT THIS DOCUMENT

This document provides guidance to help owners and operators of facilities that manufacture, use, store or otherwise handle certain extremely hazardous chemicals to determine if they are subject to EPA's Chemical Accident Prevention regulations at 40 CFR part 68 and, if so, to comply with those regulations. The discussion in this document is intended solely as guidance. The statutory provisions and EPA regulations described in this document contain legally binding requirements. This document is not a regulation itself, nor does it change or substitute for those provisions and regulations. Thus, it does not impose legally binding requirements on EPA, States, or the regulated community. This guidance does not confer legal rights or impose legal obligations upon any member of the public.

While EPA has made every effort to ensure the accuracy of the discussion in this guidance, the obligations of the regulated community are determined by statutes, regulations, or other legally binding requirements. In the event of a conflict between the discussion in this document and any statute or regulation, this document would not be controlling.

Interested parties are free to raise questions and concerns about the substance of this guidance. This is a living document and may be revised periodically without public notice. EPA welcomes public input on this document at any time.

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INTRODUCTION

WHY SHOULD I READ THIS GUIDANCE?

If a tank, drum, container, pipe, or other "process" at your facility contains any of the extremely hazardous toxic and flammable substances listed in the Code of Federal Regulations (CFR) at 40 CFR 68.130 in an amount above the "threshold quantity" specified for that substance, you are required to develop and implement a risk management program under a rule issued by the U.S. Environmental Protection Agency (EPA). (See Appendix A of this document for the list of substances and the threshold quantity established for each substance.) The rule, "Chemical Accident Prevention Provisions" (part 68 of Title 40 of the CFR), applies to a wide variety of facilities that handle, manufacture, store, or use toxic substances, including chlorine and ammonia and highly flammable substances such as propane (flammable substances used solely as fuel or sold by retailers are not covered). This document provides technical guidance on how to determine if you are subject to part 68 and how to comply with part 68. The original compliance deadline for part 68 was June 21, 1999, for facilities subject to the part by that date. For sources that first become subject to part 68 after June 21, 1999, you must be in compliance no later than the date on which you first have more than a threshold quantity of a listed substance in a process.

The goal of part 68 and the risk management program it requires is to prevent accidental releases of substances that can cause serious harm to the public and the environment from short-term exposures and to mitigate the severity of releases that do occur. Under the Clean Air Act (CAA), EPA was required to issue a rule specifying the types of actions to be taken by facilities (referred to in the law as stationary sources) to prevent accidental releases of such hazardous chemicals into the atmosphere and reduce their potential impact on the public and the environment. Part 68 is that rule.

In general, part 68 requires the following:

- Covered facilities must develop and implement a risk management program and maintain documentation of the program at the site. The risk management program includes an analysis of the potential offsite consequences of a worst-case accidental release, a five-year accident history, a release prevention program, and emergency planning.

- Covered facilities must develop and submit a risk management plan (RMP) to EPA no later than June 21, 1999, or the date on which the facility first has more than a threshold quantity of a listed substance in a process, whichever is later. The RMP generally describes the facility's risk management program. The RMP is available to federal, state, and local government agencies and the public, with some restrictions on the availability of the offsite consequence analysis sections of the RMP.

- Covered facilities must implement the risk management program and update their RMPs periodically or when certain process or other changes occur, as required by the rule.

The phrase "risk management program" refers to all of the requirements of part 68, which must be implemented on an ongoing basis. The phrase "risk management plan (RMP)" refers to the document describing the risk management program that you must submit to EPA.

GUIDANCE FOR INDUSTRY-SPECIFIC RISK MANAGEMENT PROGRAMS

EPA worked with industry representatives to develop supplemental guidance for industry-specific risk management programs for the following industries:

- ✦ Propane storage facilities
- ✦ Warehouses
- ✦ Wastewater Treatment Plants
- ✦ Chemical distributors
- ✦ Ammonia refrigeration

Industry-specific guidance developed by EPA supplements this general guidance and the *Risk Management Program Guidance for Offsite Consequence Analysis* for the industries addressed. Industry-specific guidance is appended to this guidance. If an industry-specific appendix exists for your process(es), you should consider using it because it will provide more information that is specific to your process(es), including dispersion modeling and prevention program elements.

HOW DO I USE THIS DOCUMENT?

This document is a technical guidance designed for owners and operators of sources covered by part 68. It will help you to:

- ◆ Determine if you are covered by the rule;
- ◆ Determine what level of requirements is applicable to your covered process(es);
- ◆ Understand what specific risk management program activities must be conducted;
- ◆ Select a strategy for implementing a risk management program, based on your current state of compliance with other government rules and industry standards and the potential offsite impact of releases from your process(es), and;
- ◆ Understand the reporting, documentation, and risk communication components of the rule.

This document provides guidance and reference materials to help you comply with EPA's chemical accident prevention regulations. It does not create any legally binding requirements on its own; its purpose is to help explain the requirements already established in part 68. It does not provide guidance on any other rule or part of the CAA.

STATE PROGRAMS

This guidance applies to 40 CFR part 68. You should check with your state government to determine if the state has its own accidental release prevention rules or has obtained delegation from EPA to implement and enforce an accidental release prevention program as a substitute for part 68 in your state. State rules may be more stringent that EPA's rules. They may cover more substances or cover the same substances at lower thresholds. They may also impose additional requirements. For example, California's state program requires a seismic study. See Chapter 10 for information on state implementation of part 68. Unless your state has been granted delegation, you must comply with part 68 as described in this document even if your state has different rules under state law.

WHAT DO I DO FIRST?

Before developing a risk management program, you should do five things:

(1) Determine which, if any, of your processes are covered by this program

Only sources with a threshold quantity of a "listed" or "regulated" substance (see Appendix A) in a "process" need to comply with part 68. "Process" is defined by the rule in § 68.3 and does not necessarily correspond with an engineering concept of process. The requirements apply only to covered processes. See Chapter 1 for more information on how to determine whether you have one or more "processes" subject to the rule.

(2) Determine the appropriate program level for each covered process

Depending on the specific characteristics of a covered process and the results of the offsite consequence analysis for that process, it may be subject to one of three different sets of requirements (called program levels). See Chapter 2 for more information.

(3) Determine EPA's requirements for the facility and each covered process

Certain requirements apply to the facility as a whole, while others are process-specific. See Chapter 2 for more information.

(4) Assess your operations to identify current risk management activities

Because you probably conduct some risk management activities already (e.g., employee training, equipment maintenance, and emergency planning), you should review your current operations to determine the extent to which they meet the provisions of this rule. EPA does not expect you to redo these activities if they already meet the rule's requirements. See Chapters 5 to eight individually for guidance on how to tell if your existing practices can meet those required by EPA.

(5) Review the regulations and this guidance to develop a strategy for conducting the additional actions you need to take for each covered process. Discuss the requirements with management and staff.

The risk management program takes an integrated approach to assessing and managing risks and will involve most of the operations of covered processes. Early involvement of both management and staff will help develop an effective program.

FLEXIBLE NATURE OF REQUIREMENTS

Finally, keep in mind that many part 68 requirements do not specify exactly what you must do to meet them; instead, they provide you with flexibility to develop an approach that makes sense for your facility. This allows you to tailor your program to fit the particular conditions at your facility. The degree of complexity required in a risk management program will depend on the complexity of the facility. For example, the operating procedures for a chemical distributor are likely to be relatively brief, while those for a chemical manufacturer will be extensive. Similarly, the length of training necessary to educate employees on such procedures will be proportional to the complexity of your operating procedures. And while a facility with complex processes may benefit from a computerized maintenance tracking system, a small facility with a simpler process may be able to track maintenance activities using a logbook.

There is no one "right" way to develop and implement a risk management program. Even for the same rule elements, your program will be different from everyone else's programs (even those in the same industry) because it will be designed for your specific situation and hazards — it will reflect whether your facility is near the public and sensitive environmental areas, the specific equipment you have installed, and other relevant factors.

WHERE DO I GO FOR MORE INFORMATION?

EPA's chemical accident prevention requirements were published in the *Federal Register* on January 31, 1994 (59 FR 4478) and June 20, 1996 (61 FR 31667). EPA has amended the rules several times. A consolidated copy of these regulations is available in Appendix A.

EPA works with industry and local, state, and federal government agencies to assist sources in complying with these requirements. For more information, refer to Appendix C (Technical Assistance). Your local emergency planning committee (LEPC) also can be a valuable resource and can help you discuss issues with the public.

Finally, if you have access to the Internet, EPA has made copies of the rules, fact sheets, and other related materials available at the home page of EPA's Office of Emergency Prevention, Preparedness, and Response (http://www.epa.gov/emergencies). Please check the site regularly as additional materials are posted.

GLOSSARY OF TERMS

We have tried to make this document as clear and readable as possible, but if you have rarely dealt with regulations before, some of the language may seem initially odd and confusing. All regulations have their own vocabulary. A few words and phrases have very specific meanings within the regulation. Some of these are unusual, which is to say they are not used in everyday language. Others are defined by the rule in ways that vary to some degree from their everyday meaning. The following are the major regulatory terms used in this document and a brief introduction to their meaning within the context of part 68. They are defined in § 68.3 of the rule.

"*Stationary source"* basically means facility. The CAA, and thus part 68, use the term "stationary source" and we explain it in Chapter 1. Generally, we use "facility" in its place in this document.

"Process" is given a broad meaning in this rule and document. Most people think of a process as the mixing or reacting of chemicals. Its meaning under this rule is much broader. It basically means any equipment, including storage vessels, and activities, such as loading, that involves a regulated substance and could lead to an accidental release. Chapter 1 discusses the definition of process under this rule in detail.

"Regulated substance" means one of the 140 chemicals listed in part 68.

"Threshold quantity" means the quantity, in pounds, of a regulated substance which, if exceeded, triggers coverage by this rule. Each regulated substance has its own threshold quantity. If you have more than a threshold quantity of a regulated substance in a process, you must comply with the rule. Chapter 1 explains how to determine whether you have a threshold quantity.

"Vessel" means any container, from a single drum or pipe to a large storage tank or sphere.

"Public receptor" generally means any place where people live, work, or gather, with the exception of roads. Buildings, such as houses, shops, office buildings, industrial facilities, the areas surrounding buildings where people are likely to be present, such as yards and parking lots, and recreational areas, such as parks, sports arenas, rivers, lakes, beaches, are considered public receptors. Chapter 2 discusses public receptors.

"Environmental receptor" means a limited number of natural areas that are officially designated by the state or federal government. Chapter 2 discusses this definition.

WHAT IS A LOCAL EMERGENCY PLANNING COMMITTEE?

Local emergency planning committees (LEPCs) were formed under the Federal Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986. The committees are designed to serve as a community forum for issues relating to preparedness for emergencies involving hazardous substances. They consist of representatives from local government, local industry, transportation groups, health and medical organizations, community groups, and the media. LEPCs:

- ✦ Collect information from facilities on hazardous substances that pose a risk to the community;
- ✦ Develop a contingency plan for the community based on this information; and
- ✦ Make information on hazardous substances available to the general public.

Contact the mayor's office or the county emergency management office for more information on your LEPC.

CHAPTER 1: GENERAL APPLICABILITY

1.1 INTRODUCTION

The purpose of this chapter is to help you determine if you are subject to Part 68, the risk management program rule. Part 68 covers you if you are:

- The owner or operator of a stationary source (facility)
- That has more than a threshold quantity
- Of a regulated substance
- In a process.

The goal of this chapter is to make it easy for you to identify processes that are covered by this rule so you can focus on them.

This chapter walks you through the key decision points (rather than the definition items above), starting with those provisions that may tell you that you are not subject to the rule. We first outline the general applicability provisions and the few exemptions and exclusions, then discuss which chemicals are "regulated substances." If you do not have a "regulated substance" at your site, you are not covered by this rule. The exemptions may exclude you from the rule or simply exclude certain activities from consideration. (Throughout this document, when we say "rule" we mean the regulations in part 68.)

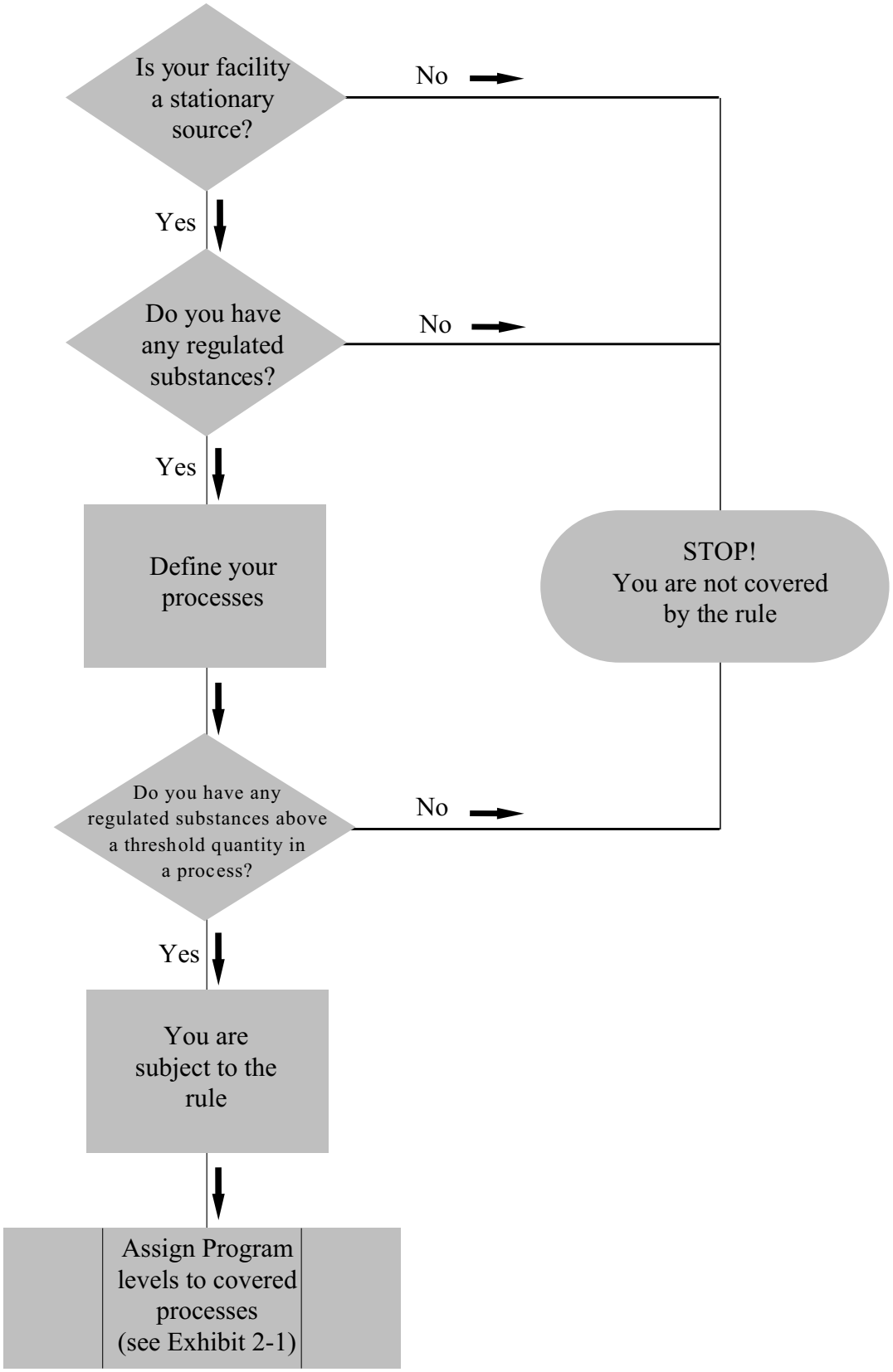
We then describe what is considered a "process," which is critical because you are subject to the rule *only* if you have more than a threshold quantity of a regulated substance in a process. The chapter next describes how to determine whether you have more than a threshold quantity.

Finally, we discuss how you define your overall stationary source and when you must comply. These questions are important once you have decided that you are covered. For most facilities covered by this rule, the stationary source is basically all covered processes at your site. If your facility is part of a site with other divisions of your company or other companies, the discussion of stationary source will help you understand what you are responsible for in your compliance and reporting. Exhibit 1-1 presents the decision process for determining applicability.

STATE PROGRAMS

This guidance applies to only 40 CFR part 68. You should check with your state government to determine if the state has its own accidental release prevention rules or has obtained delegation from EPA to implement and enforce part 68 in your state. State rules may be more stringent than EPA's rules. Unless your state has been granted delegation, you must comply with part 68 as described in this document even if your state has different rules under state law. See Chapter 10 for a discussion of state implementation of part 68.

EXHIBIT 1-1
EVALUATE FACILITY TO IDENTIFY COVERED PROCESSES



1.2 GENERAL PROVISIONS

The CAA applies the Risk Management Program rule to any person who owns or operates a stationary source. "Person" is defined to include:

"An individual, corporation, partnership, association, State, municipality, political subdivision of a state, and any agency, department, or instrumentality of the United States and any officer, agency, or employee thereof."

The rule, therefore, applies to all levels of government as well as private businesses.

CAA section 112(r)(2)(c) defines "stationary sources" as:

"Any buildings, structures, equipment, installations, or substance emitting stationary activities

- Which belong to the same industrial group,
- Which are located on one or more contiguous properties,
- Which are under the control of the same person (or persons under common control), and
- From which an accidental release may occur."

EPA has added some language in the rule to clarify issues related to transportation (see below).

FARM USE OF AMMONIA (§68.125)

The rule exempts ammonia when held by a farmer for use on a farm. This exemption applies to ammonia only when used as a fertilizer by a farmer. It does not apply to agricultural suppliers or the fertilizer manufacturer. It does not apply to farm cooperatives or to groups of farmers who buy, use, and sell ammonia. In the event that a farmer stores one or more other regulated substance above threshold quantities, that storage would be covered.

FLAMMABLE FUELS (§68.126)

The flammable substances listed in § 68.130 are excluded from coverage under part 68 when they are used as a fuel or held for sale as a fuel at a retail facility. A retail facility is defined as a stationary source at which more than half of the income is obtained from direct sales to end users or at which more than one-half of the fuel sold, by volume, is sold through a cylinder exchange program.

Unless your facility meets the definition of a “retail facility,” if you hold a listed flammable substance for purposes other than on-site use as fuel, you are potentially covered by part 68. For example, if you manufacture a listed flammable fuel, use it as a chemical feedstock, or store it in bulk for sale and do not meet the definition of a retail facility, you may be covered by the rule. If you store a listed flammable

substance for non-fuel use and also use some of it on-site as a fuel, the quantity used as a fuel is not covered; the quantity not used on site as a fuel is potentially subject to the rule. If you are a retailer who sells a flammable fuel and a listed toxic substance, the toxic substance is potentially subject to the rule, but the flammable substance is excluded from coverage.

TRANSPORTATION ACTIVITIES

The rule applies only to stationary sources. It does not apply to transportation, including storage incident to transportation. Transportation includes, but is not limited to, transportation subject to oversight or regulation under 49 CFR parts 192 (Federal safety standards for transportation of natural and other gas by pipeline), 193 (Federal safety standards for liquefied natural gas facilities), or 195 (Federal safety standards for transportation of hazardous liquids by pipeline), or a state natural gas or hazardous liquid program for which the state has in effect a certification to DOT under 49 U.S.C. 60105. Storage of natural gas incident to transportation (i.e., gas taken from a pipeline during non-peak periods and placed in storage fields, then returned to the pipeline when needed) is not covered. Storage fields include, but are not limited to, depleted oil and gas reservoirs, aquifers, mines, or caverns.

QS & AS
STATIONARY SOURCE

Q. What does "same industrial group" mean?

A. Operations at a site that belong to the same three-digit North American Industry Classification System (NAICS) code prefix (which has replaced the old SIC codes) belong to the "same industrial group. In addition, where one or more operations at the site serve primarily as support facilities for the main operation at the site, the supporting operations are part of the "same industrial group" as the main operation. For example, if you manufacture chemicals (NAICS 325) and operate a waste treatment facility (NAICS 562) that handles primarily wastes generated by your chemical operations, the waste operation would be considered a support operation. If you operate a petrochemical manufacturing operation (NAICS 32511) next to your petroleum refinery (NAICS 32411), the two plants would be considered in different industrial groups and would require two RMPs unless the majority of the refinery's production was used by the chemical manufacturing plant.

Q. What does "contiguous property" mean?

A. Property that is adjoining. Public rights-of-way (e.g., railroads, highways) do not prevent property from being considered contiguous. Property connected only by rights-of-way are not considered contiguous (e.g., two plants with a connecting pipeline).

Q. What does "control of the same person" mean?

A. Control of the same person refers to corporate control, not site management. If two divisions of a corporation operate at the same site, even if each operation is managed separately, they will count as one source provided the other criteria are met because they are under control of the same company.

Transportation containers used for storage not incident to transportation and transportation containers connected to equipment at a stationary source are considered part of the stationary source. Transportation containers that have been unhooked from the motive power that delivered them to the site (e.g., truck or locomotive) and left on your site for short-term or long-term storage are part of your stationary source. For example, if you have railcars on a private siding that you use as storage tanks until you are ready to hook them to your process, these railcars should be considered to be part of your source. If a tank truck is being unloaded **and** the motive power is still attached, the truck and its contents are considered to be in transportation and not covered by the rule. You should count only the substances in the piping or hosing as well as the quantity unloaded. Some issues related to transportation are still under discussion with DOT.

RELATIONSHIP TO OSHA PROCESS SAFETY MANAGEMENT STANDARD EXEMPTIONS

The OSHA Process Safety Management (PSM) standard (29 CFR 1910.119) exempts retail facilities, substances used solely as a fuel if such substances are not part of a process containing another regulated substance, flammable liquids stored in atmospheric storage tanks, and remote oil and gas production. In addition, state and local governments are not subject to federal OSHA standards.

EPA's Risk Management Program Rule has a different set of exemptions than the OSHA PSM standard; OSHA exempts some processes that EPA does not exempt, and vice versa. You should carefully evaluate the exemptions of the Risk Management Program rule to determine whether your process is covered, even if it qualifies for an OSHA PSM exemption. For example, the EPA rule exempts flammable substances used as fuel and fuels sold at retail facilities, but does not exempt non-fuel substances sold at retail facilities. The EPA rule does not exempt substances stored in atmospheric storage tanks, and it applies to state and local governments. If such governments own or operate a facility where there is more than a threshold quantity of a regulated substance in a process, they must comply with the rule. As discussed in Section 1.5, many oil and gas production facilities, as well as most retail gas stations and propane retailers are not subject to the rule because the flammable substances at these facilities are excluded from threshold determinations.

1.3 REGULATED SUBSTANCES AND THRESHOLDS (§68.130)

The list of substances regulated under § 68.130 is in Appendix A. Check the list carefully. If you do not have any of these substances (either as pure substances or in mixtures above 1 percent concentration) or do not have them above their listed threshold quantities, you do not need to read any further because you are not covered.

The list includes 77 chemicals that were listed because they are acutely toxic; they can cause serious health effects or death from short-term exposures. The list also covers 63 flammable gases and highly volatile flammable liquids. The flammable chemicals have the potential to form vapor clouds and explode or burn if released. The rule also covers flammable mixtures that include any of the listed flammables if the mixture meets the criteria for the National Fire Protection Association's (NFPA) 4 rating (see Chapter 1, section 1.5).

1.4 WHAT IS A PROCESS

The concept of "process" is key to whether you are subject to this rule. Process is defined in 40 CFR §68.3 as:

"Any activity involving a regulated substance, including any use, storage, manufacturing, handling, or on-site movement of such substances, or combination of these activities. For the purposes of this definition, any group of vessels that are interconnected, or separate vessels that are located such that a regulated substance could be involved in a potential release, shall be considered a single process."

"Vessel" in §68.3 means any reactor, tank, drum, barrel, cylinder, vat, kettle, boiler, pipe, hose, or other container.

EPA's definition of process is identical to the definition of process under the OSHA PSM standard. Understanding the definition of process is important in determining whether you have a threshold quantity of a regulated substance and what level of requirements you must meet if the process is covered.

What does this mean to you?

- If you store a regulated substance in a single vessel in quantities above the threshold quantity, you are covered.
- If you have interconnected vessels that altogether hold more than a threshold quantity of a regulated substance, you are covered. The connections need not be permanent. If two or more vessels are connected occasionally, they are considered a single process for the purposes of determining whether a threshold quantity is present.
- If you have multiple unconnected vessels containing the same substance, you will have to determine whether they are co-located and thus considered a single process for purposes of the rule.

A process can be as simple as a single storage vessel or a group of drums or cylinders in one location or as complicated as a system of interconnected reactor vessels, distillation columns, receivers, pumps, piping, and storage vessels.

SINGLE VESSELS

If you have only a single vessel containing a regulated substance, you need not worry about the other possibilities for defining a process and can skip to section 1.5. For the purposes of defining a threshold quantity, you need only consider the quantity in this vessel.

INTERCONNECTED VESSELS

In general, if you have two or more vessels that contain a regulated substance and are connected through piping or hoses for transfer of the regulated substance, you must consider the total quantity of the regulated substance in all the connected vessels and

piping when determining if you have a threshold quantity in a process. If the vessels are connected for transfer of the substance using hoses that are sometimes disconnected, you still have to consider the contents of the vessels as one process, because if one vessel were to rupture while a hose was attached or a hose were to break during the transfer, both tanks could be affected. Therefore, you must count the quantities in both tanks and in any connecting piping or hoses. You cannot consider the presence of automatic shutoff valves or other devices that can limit flow, because these are assumed to fail for the purpose of determining the total quantity in a process.

Once you have determined that a process is covered (the process contains more than a threshold quantity of a regulated substance), you must also consider equipment, piping, hoses, or other interconnections that do not carry or contain the regulated substance, but that are important for accidental release prevention. Equipment or connections which contain utility services, process cooling water, steam, electricity, or other non-regulated substances may be considered part of a process if such equipment could cause a regulated substance release or interfere with mitigating the consequences of an accidental release. Your prevention program for this process will need to cover such equipment. If, based on your analysis, it is determined that interconnected equipment or connections not containing the regulated substance cannot cause a regulated substance release or interfere with mitigation of the consequences of such a release, then such equipment or connections could safely be considered outside the limits or boundaries of the covered process.

In some cases, such as in a large refinery or multi-unit chemical plant, determining the boundaries of a process for purposes of the RMP rule may be complicated. In the preamble to the June 20, 1996 rule (61 FR 31668), EPA clearly stated its intent to be consistent with OSHA's interpretation of "process" as that term is used in OSHA's PSM rule. Therefore, if your facility is subject to the PSM rule, the limits of your process(es) for purposes of OSHA PSM will be the limits of your process(es) for purposes of RMP (except where the two rules' applicability differ such as for retail facilities and atmospheric storage tanks). If your facility is not covered by OSHA PSM and is complicated from an engineering perspective, you should consider contacting your implementing agency for advice on determining process boundaries.

CO-LOCATION

The third possibility you must consider is whether you have separate vessels that contain the same regulated substance that are located such that they could be involved in a single release. If so, you must add together the total quantity in all such vessels to determine if you have more than a threshold quantity. This possibility will be particularly important if you store a regulated substance in cylinders or barrels or other containers in a warehouse or outside in a rack. In some cases, you may have two vessels or systems that are in the same building or room. For each of these cases, you should ask yourself:

- Could a release from one of the containers lead to a release from the other? For example, if a cylinder of propane were to rupture and burn, would the fire spread to other propane cylinders?

- Could an event external to the containers, such as a fire or explosion or collapse of collision (e.g., a vehicle collides with several stored containers), have the potential to release the regulated substance from multiple containers?

You must determine whether there is a credible scenario that could lead to a release of a threshold quantity.

For flammables, you should consider the distance between vessels. If a fire could spread from one vessel to others or an explosion could rupture multiple vessels, you must count all of them. For toxics, a release from a single vessel will not normally lead to a release from others unless the vessel fails catastrophically and explodes, sending metal fragments into other vessels. Co-located vessels containing toxic substances, however, may well be involved in a release caused by a fire or explosion that occurs from another source. You should assume such a fire or explosion could take place in determining whether separate vessels could be involved in a single release. In addition, a collapse of storage racks could lead to multiple vessels breaking open.

If vessels are separated by fire walls or barricades that will contain the blast waves from explosions of the substances, you will not need to count the separated vessels, but you would count any that are in the same room. You may not dismiss the possibility of a fire spreading based on an assumption that your fire brigade will be able to prevent any spread. You should ask yourself how far the fire would spread if the worst happens — the fire brigade is slow to arrive, the water supply fails, or the local fire department decides it is safer to let the fire burn itself out. If you have separate vessels containing a regulated substance that could be affected by the same accident, you should count them as a single process.

PROCESSES WITH MULTIPLE CHEMICALS

When you are determining whether you have a covered process, you should not limit your consideration to vessels that have the same regulated substance. A covered process includes any vessels that altogether hold more than a threshold quantity of one of more regulated substances and that are interconnected or co-located. Therefore, if you have four storage or reactor vessels holding four different regulated substances above their individual thresholds and they are located close enough to be involved in a single event, they are considered a single process. One implication of this approach is that if you have two vessels, each containing slightly less than a threshold quantity of the same regulated substance and located a considerable distance apart, and you have other storage or process vessels in between with other regulated substances above their thresholds, the two vessels with the first substance may be considered to be part of a larger process involving the other intervening vessels and other regulated substances, based on co-location.

Exhibit 1-2 provides illustrations of what may be defined as a process.

DO NOT AGGREGATE QUANTITIES OF DIFFERENT SUBSTANCES

OSHA aggregates different flammable liquids across vessels in making threshold determinations. OSHA also aggregates different flammable gases (but does not

aggregate flammable liquids with flammable gases). EPA aggregates neither. Therefore, if you have three co-located or connected reactor vessels each containing 5,000 pounds of a different flammable liquid, OSHA considers that you have 15,000 pounds of flammable liquids and are covered by the PSM standard. Under EPA's rule, you would not have a covered process because you do not meet the threshold quantity for any one of the three substances. OSHA, like EPA, does not aggregate quantities for toxics as a class (i.e., each toxic substance must meet its own threshold quantity).

AGGREGATION OF SUBSTANCES

A toxic substance is never aggregated with a different toxic substance to determine whether a threshold quantity is present. If your process consists of co-located vessels with different toxic substances, you must determine whether each substance exceeds its threshold quantity.

A flammable substance in one vessel is never aggregated with a different flammable substance in another vessel to determine whether a threshold quantity is present. However, if a flammable mixture meets the criteria for NFPA-4 and contains different regulated flammables, it is the mixture, not the individual substances, that is considered in determining if a threshold quantity is present.

1.5 THRESHOLD QUANTITY IN A PROCESS

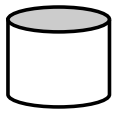
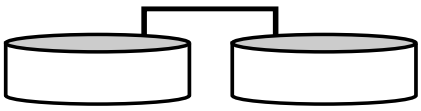
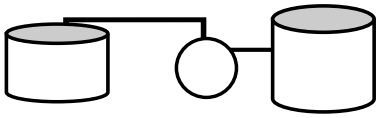
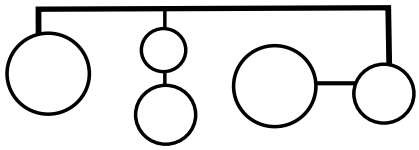
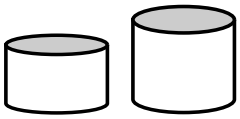
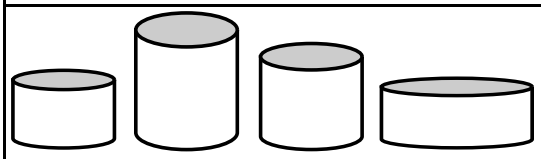
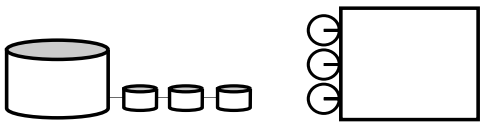
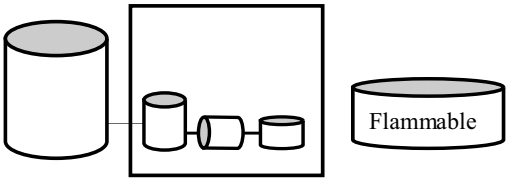
The threshold quantity for each regulated substance is listed in 40 CFR §68.130, in Appendix A. You should determine whether the maximum quantity of each substance in a process is greater than the threshold quantity listed. If it is, you must comply with this rule for that process. Even if you are not covered by this rule, you may still be subject to other reporting requirements, such as those under the Emergency Planning and Community Right to Know Act (EPCRA).

QUANTITY IN A VESSEL

To determine if you have the threshold quantity of a regulated substance in a vessel involved in a single process, you need to consider the maximum quantity in that vessel at any one time. You do not need to consider the vessel's maximum capacity if you never fill it to that level. Base your decision on the actual maximum quantity that you may have in the vessel. Your maximum quantity may be more than your normal operating maximum quantity; for example, if you may use a vessel for emergency storage, the maximum quantity should be based on the quantity that might be stored.

"At any one time" means you need to consider the largest quantity that you ever have in the vessel. If you fill a tank with 50,000 pounds and immediately begin using the substance and depleting the contents, your maximum is 50,000 pounds. If you fill the vessel four times a year, your maximum is still 50,000 pounds. Throughput is not considered because the rule is concerned about the maximum quantity you could release in a single event.

EXHIBIT 1-2
PROCESS

Schematic Representation	Description	Interpretation
	1 vessel 1 regulated substance above TQ	1 process
	2 or more connected vessels *same* regulated substance above TQ	1 process
	2 or more connected vessels *different* regulated substance each above TQ	1 process
	pipeline feeding multiple vessels total above TQ	1 process
	2 or more vessels co-located *same* substance total above TQ	1 process
	2 or more vessels co-located *different* substances each above TQ	1 process
	2 vessels, located so they won't be involved in a single release *same or different* substances each above TQ	2 processes
	2 locations with regulated substances each above TQ	1 or 2 processes depending on distance
	1 series of interconnected vessels *same or different* substances above TQs *plus* a co-located storage vessel containing flammables	1 process

QUANTITY IN A PIPELINE

The maximum quantity in a pipeline will generally be the capacity of the pipeline (volume). In most cases, pipeline quantity will be calculated and added to the interconnected vessels.

INTERCONNECTED/CO-LOCATED VESSELS

If your process consists of two or more interconnected vessels, you must determine the maximum quantity for each vessel and the connecting pipes or hoses. The maximum for each individual vessel and pipe is added together to determine the maximum for the process.

If you have determined that you must consider co-located vessels as one process, you must determine the maximum quantity for each vessel and sum up the quantities of all such vessels.

QUANTITY OF A SUBSTANCE IN A MIXTURE OR SOLUTION

TOXICS WITH LISTED CONCENTRATION

Four toxic substances have listed concentrations in the rule: hydrochloric acid — 37 percent or greater; hydrofluoric acid — 50 percent or greater; nitric acid — 80 percent or greater; and ammonia — 20 percent or greater.

- If you have these substances in solution and their concentration is less than the listed concentration, you do not need to consider them at all.

- If you have one of these four above their listed concentration, you must determine the weight of the substance in the solution and use that to calculate the quantity present. If that quantity is greater than the threshold, the process is covered. For example, aqueous ammonia is covered at concentrations above 20 percent, with a threshold quantity of 20,000 pounds. If the solution is 25 percent ammonia, you would need 80,000 pounds of the solution to meet the threshold quantity; if the solution is 44 percent ammonia, you would need 45,455 pounds to meet the threshold quantity (quantity of mixture x percentage of regulated substance = quantity of regulated substance).

Note that in a revision to part 68, EPA changed the concentration for hydrochloric acid to 37 percent or greater (see Appendix A).

Qs & As
Process

Q. Do I have to do my hazard review, process hazard analysis, or other prevention activity on the whole process or can I break it into separate units?

A. Once you have determined that you have a covered process, you can divide the covered process any way you want to implement the prevention program. If you have multiple interconnected storage and reactor vessels in your process, you may want to treat them separately when you conduct the hazard review or process hazard analysis, if only to make the analyses easier to manage. Storage and reactor vessels may require separate maintenance programs. You should do what makes sense for your process.

Q. How far apart do separate vessels have to be to be considered different processes?

A. There is no hard and fast rule for how great this distance should be before you do not need to consider the vessels as part of one process. Two vessels at opposite ends of a large warehouse room might have to be considered as one process if the entire warehouse or room could be engulfed in a fire. Two vessels separated by the same distance out of doors might be far enough apart that a fire affecting one would be unlikely to spread to the other. You may want to consult with your local fire department. You should then use your best professional judgment. Ask yourself how much of the regulated substance could be released if the worst happens (you have a major fire, an explosion, a natural disaster).

Toxics without a listed concentration

For toxics without a listed concentration, if the concentration is less than one percent you need not consider the quantity in your threshold determination. If the concentration in a mixture is above one percent, you must calculate the weight of the regulated substance in the mixture and use that weight to determine whether a threshold quantity is present. However, if you can measure or estimate (and document) that the partial pressure of the regulated substance in the mixture is less than 10 mm Hg, you do not need to consider the mixture. Note that the partial pressure rule does not apply to toluene diisocyanate (2-4, 2-6, or mixed isomers) or oleum.

EPA treats toxic mixtures differently from OSHA. Under the OSHA PSM standard, the entire weight of the mixture is counted toward the threshold quantity; under part 68, only the weight of the toxic substance is counted.

Flammables

Flammable mixtures are subject to the rule only if there is a regulated substance in the mixture above one percent and the entire mixture meets the NFPA-4 criteria. If the mixture meets both of these criteria, you must use the weight of the entire mixture (not just the listed substance) to determine if you exceed the threshold quantity. The NFPA-4 definition is as follows:

"Materials that will rapidly or completely vaporize at atmospheric pressure and normal ambient temperature or that are readily dispersed in air, and that will burn readily. This degree usually includes:

Flammable gases

Flammable cryogenic materials

Any liquid or gaseous material that is liquid while under pressure and has a flash point below 73 F (22.8 C) and a boiling point below 100 F (37.8 C) (i.e., Class 1A flammable liquids)

Materials that will spontaneously ignite when exposed to air."

FLAMMABLES NOT COVERED BY PART 68 (§68.115)

The following flammables are not considered part of a "stationary source" and, therefore, any regulated substances contained in them need not be included in your calculations of threshold quantities:

- Naturally occurring hydrocarbon reservoirs; and
- Naturally occurring hydrocarbon transportation subject to oversight or regulation under 49 CFR parts 192, 193, or 195, or a state natural gas or hazardous liquid program for which the state has in effect a certification to DOT under 49 U.S.C. 60105.

"Naturally occurring hydrocarbon reservoirs" include oil and gas fields, where the hydrocarbons occur in nature and from which they are pumped; they do not include natural formations, such as salt domes, where hydrocarbons are stored after they have been produced or processed. Transportation subject to DOT and/or state oversight or regulation refers to transportation in pipelines and liquefied natural gas facilities.

You do not need to consider the following flammable substances when you determine the applicability of the rule:

- Gasoline, when in distribution or related storage for use as fuel for internal combustion engines;
- Naturally occurring hydrocarbon mixtures prior to entry into a petroleum refining process unit (NAICS code 32411) or a natural gas processing plant (NAICS code 211112). Naturally occurring hydrocarbon mixtures include any of the following:
- Condensate - hydrocarbon liquid separated from natural gas that condenses because of changes in temperature, pressure, or both, and that remains liquid at standard conditions;
- Crude oil - any naturally occurring, unrefined petroleum liquid;

- Field gas - gas extracted from a production well before the gas enters a natural gas processing plant (any processing site engaged in the extraction of natural gas liquids from field gas, fractionation of mixed natural gas liquids to natural gas products, or both); and

- Produced water - water extracted from the earth from an oil or natural gas production well, or that is separated from oil or natural gas after extraction.

EXCLUSION FOR FLAMMABLE SUBSTANCES USED AS FUEL OR HELD FOR SALE AS FUEL AT RETAIL FACILITIES (§68.126)

A flammable substance listed in Tables 3 and 4 of ***§68.130*** is excluded from coverage when the substance is used as fuel at the source or held for sale as a fuel at a retail facility. Retail facilities include any stationary source where more than one half of the income (from fuel sales) is obtained from direct sales to end users or at which more than one-half of the fuel sold, by volume, is sold through a cylinder exchange program.

EXCLUSIONS (§68.115)

The rule has a number of additional exclusions that allow you to ignore certain items that contain a regulated substance when you determine whether a threshold quantity is present. Note that these same exclusions apply to EPCRA section 313; you should be familiar with them if you are subject to that provision.

MANUFACTURED ITEMS & ARTICLES (§68.115(B)(3))

You do not need to include in your threshold calculations any manufactured item defined at §68.3 (as defined under 29 CFR 1910.1200(b)) that:

- Is formed to a specific shape or design during manufacture,

- Has end use functions dependent in whole or in part upon the shape or design during end use, and

- Does not release or otherwise result in exposure to a regulated substance under normal conditions of processing and use.

CERTAIN USES OF REGULATED SUBSTANCES (§68.115(B)(4))

You also do not need to include regulated substances in your calculation when in use for the following purposes:

- Use as a structural component of the stationary source;

- Use of products for routine janitorial maintenance;

- Use by employees of foods, drugs, cosmetics, or other personal items containing the regulated substances; and

- Use of regulated substances present in process water or non-contact cooling water as drawn from the environment or municipal sources, or use of regulated substances present in air used either as compressed air or as part of combustion.

ACTIVITIES IN LABORATORIES (§68.115(B)(5))

If a regulated substance is manufactured, processed, or used in a laboratory at a stationary source under the supervision of a technically qualified individual (as defined by § 720.3 (ee) of 40 CFR), the quantity of the substance need not be considered in determining whether a threshold quantity is present. This exclusion does not extend to:

- Specialty chemical production;
- Manufacture, processing, or use of substances in pilot plant scale operations; and
- Activities conducted outside the laboratory.

1.6 STATIONARY SOURCE

The rule applies to "stationary sources" and each stationary source with one or more covered processes must file an RMP that includes all covered processes.

SIMPLE SOURCES

For most facilities covered by this rule, determining what constitutes a "stationary source" is simple. If you own or lease a property, your processes are contained within the property boundary, and no other companies operate on the property, then your stationary source is defined by the property boundary and covers any process within the boundaries that has more than a threshold quantity of a regulated substance. You must comply with the rule and file a single RMP for all covered processes.

MULTIPLE OPERATIONS OWNED BY A SINGLE COMPANY

If the property is owned or leased by your company, but several separate operating divisions of the company have processes at the site, the divisions' processes may be considered a single stationary source because they are controlled by a single company. Two factors will determine if the processes are to be considered a single source: Are the processes located on one or more contiguous properties? Are all of the operations in the same industrial group?

If your company does have multiple operations that are on the same property and are in the same industrial group, each operating division may develop its prevention program separately for its covered processes, but you must file a single RMP for all covered processes at the site. You should note that this is different from the requirements for filing under CAA Title V, and EPCRA section 313 (the annual

toxic release inventory), where each division could file separately if your company chose to do so.

OTHER SOURCES

There are situations where two or more separate companies occupy the same site. The simplest of these cases is if multiple companies lease land at a site (e.g., an industrial park). Each company that has covered processes must file an RMP that includes information on its own covered processes at the site. You are responsible for filing an RMP for any operations that you own or operate.

Another possibility is that one company owns the land and operates there while leasing part of the site to a second company. If both companies have covered processes, each is considered a separate stationary source and must file separate RMPs even if they have contractual relationships, such as supplying product to each other or sharing emergency response functions.

If you and another company jointly own a site, but have separate operations at the site, you each must file separate RMPs for your covered processes. Ownership of the land is not relevant; a stationary source consists of covered processes located on the same property and controlled by the same person (or persons under common control).

JOINT VENTURES

You and another company may jointly own covered processes. In this case, the legal entity you have established to operate these processes should file the RMP. If you consider this entity a subsidiary, you should be listed as the parent company in the RMP.

MULTIPLE LOCATIONS

If you have multiple operations in the same area, but they are not on physically connected land, you must consider them separate stationary sources and file separate RMPs for each, even if the sites are connected by pipelines that move chemicals among the sites. Remember, the rule applies to covered processes at a single location.

Exhibit 1-3 provides examples of stationary source decisions.

1.7 WHEN YOU MUST COMPLY

June 21, 1999 was the original compliance date for facilities that had covered processes as of that date. If the first time you have a covered process is after June 21, 1999, or you bring a new process on line after that date, you must comply with part 68 no later than the date on which you first have more than a threshold quantity of a regulated substance in a process. By that time you must have developed and implemented all of the elements of the rule that apply to each of your covered processes, and you must submit an RMP to EPA in the specified form and manner (see Chapter 9 for detailed information on submitting your RMP).

Qs & As
STATIONARY SOURCE

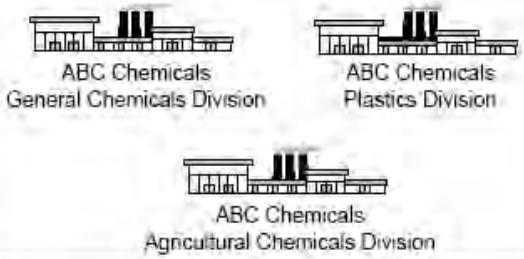
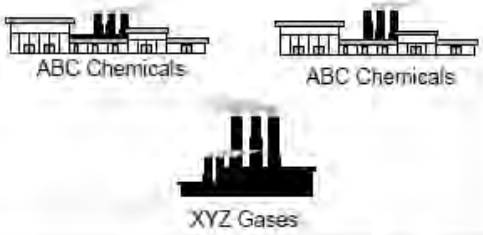
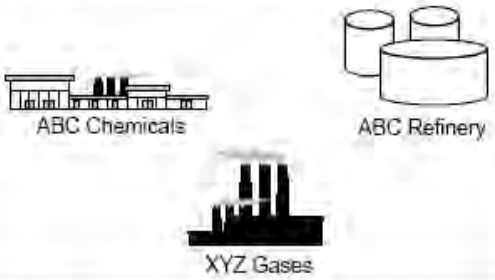
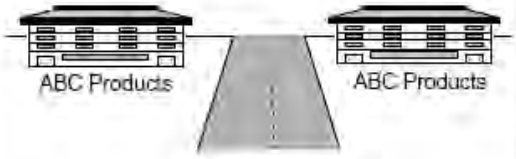
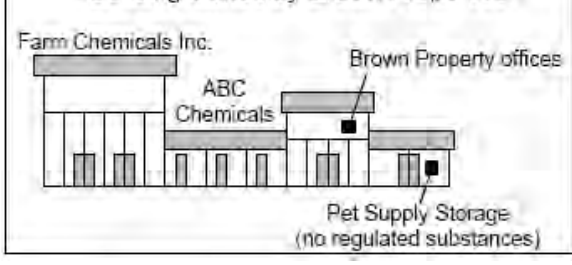
Q. I operate a single covered process on a site owned by a large company. I manufacture a regulated substance that I pipe to the other company for use in its processes. At what point do the piping and substance become part of the other company's stationary source?

A. The answer will vary. The company that owns and maintains the piping should probably consider it part of its stationary source. If, however, there is a point (e.g., a valve or meter) where the receiving company is considered to take ownership of the substance, then you may decide to divide the piping and its contents at that point.

Q. The definition of process would seem to say that my process is part of the larger company's process because they are interconnected. Why can't the larger company just include my process in its RMP?

A. Your process is not part of the larger company's stationary source because it does not meet the statutory criteria for stationary sources. Although the process may be part of the same industrial group and is at the same location, it is not under control of the same person. Therefore, the process is a separate stationary source and must have a separate RMP.

EXHIBIT 1-3 - STATIONARY SOURCE

Schematic Representation	Description	Interpretation
	*same* owner *same* industrial group	1 stationary source 1 RMP
	two owners	2 stationary sources 2 RMPs 1 ABC 1 XYZ
	two owners three industrial groups	3 stationary sources 1 ABC Chemicals 1 ABC Refinery 1 XYZ Gases
	two owners	2 stationary sources 2 RMPs
	*same* owner *same* industrial group contiguous property	1 stationary source 1 RMP
	two owners	2 stationary sources 2 RMPs 1 ABC Chemicals 1 Farm Chemicals

QS & AS
COMPLIANCE DATES

Q. What happens if I bring a new covered process on line (e.g., install a second storage tank) after submitting my original RMP?

A. For a new covered process added after the initial compliance date, you must be in compliance on the date you first have a regulated substance above the threshold quantity. There is no grace period. You must develop and implement all the applicable rule elements and update your RMP before your process contains more than a threshold quantity of a regulated substance.

Q. What if EPA lists a new substance?

A. You will have three years from the date on which the new listing is effective to come into compliance for any process that is covered because EPA has listed a new substance.

Q. What if I change a process by adding new reactor vessels, but do not change the substances?

A. Because increasing the number of reactor vessels is usually a major change to your process, you will have six months to update your RMP to reflect changes in your prevention program elements and report any other changes.

Q. What if the quantity in the process fluctuates? I may not have a threshold quantity now, but I will intermittently exceed the threshold quantity.

A. You do not need to comply with the rule and file an RMP unless you have more than threshold quantity in a process; however, once you have more than threshold quantity in a process, you must be in compliance immediately. In this situation, with fluctuating quantities, it may be prudent to file now, so you will be in compliance when your quantity exceeds the threshold. You may also want to consider a "predictive filing" (see Chapter 9 for more information on predictive filing).

CHAPTER 2: APPLICABILITY OF PROGRAM LEVELS

2.1 WHAT ARE PROGRAM LEVELS?

Once you have determined that you have one or more processes subject to this rule (see Chapter 1), you need to identify what actions you must take to comply. The rule defines three Program levels based on processes' relative potential for public impacts and the level of effort needed to prevent accidents. For each Program level, the rule defines requirements that reflect the level of risk and effort associated with the processes at that level. The Program levels are as follows:

> **Program 1:** Processes which would not affect the public in the case of a worst-case release (in the language of Part 68, processes "with no public receptors within the distance to an endpoint from a worst-case release") and with no accidents with specific offsite consequences within the past five years are eligible for Program 1, which imposes limited hazard assessment requirements and minimal prevention and emergency response requirements.
>
> **Program 2:** Processes not eligible for Program 1 or subject to Program 3 are placed in Program 2, which imposes streamlined prevention program requirements, as well as additional hazard assessment, management, and emergency response requirements.
>
> **Program 3:** Processes not eligible for Program 1 and either subject to OSHA's PSM standard under federal or state OSHA programs or classified in one of ten specified North American Industrial Classification System (NAICS) codes are placed in Program 3, which imposes OSHA's PSM standard as the prevention program as well as additional hazard assessment, management, and emergency response requirements.

If you assign a process to Program 2 or 3 when it might qualify for Program 1, the implementing agency may enforce all the requirements of the higher program levels. If, however, you are already in compliance with the prevention elements of Program 2 or Program 3, you may want to assign it to Program 2 or 3 to inform the community of your prevention efforts.

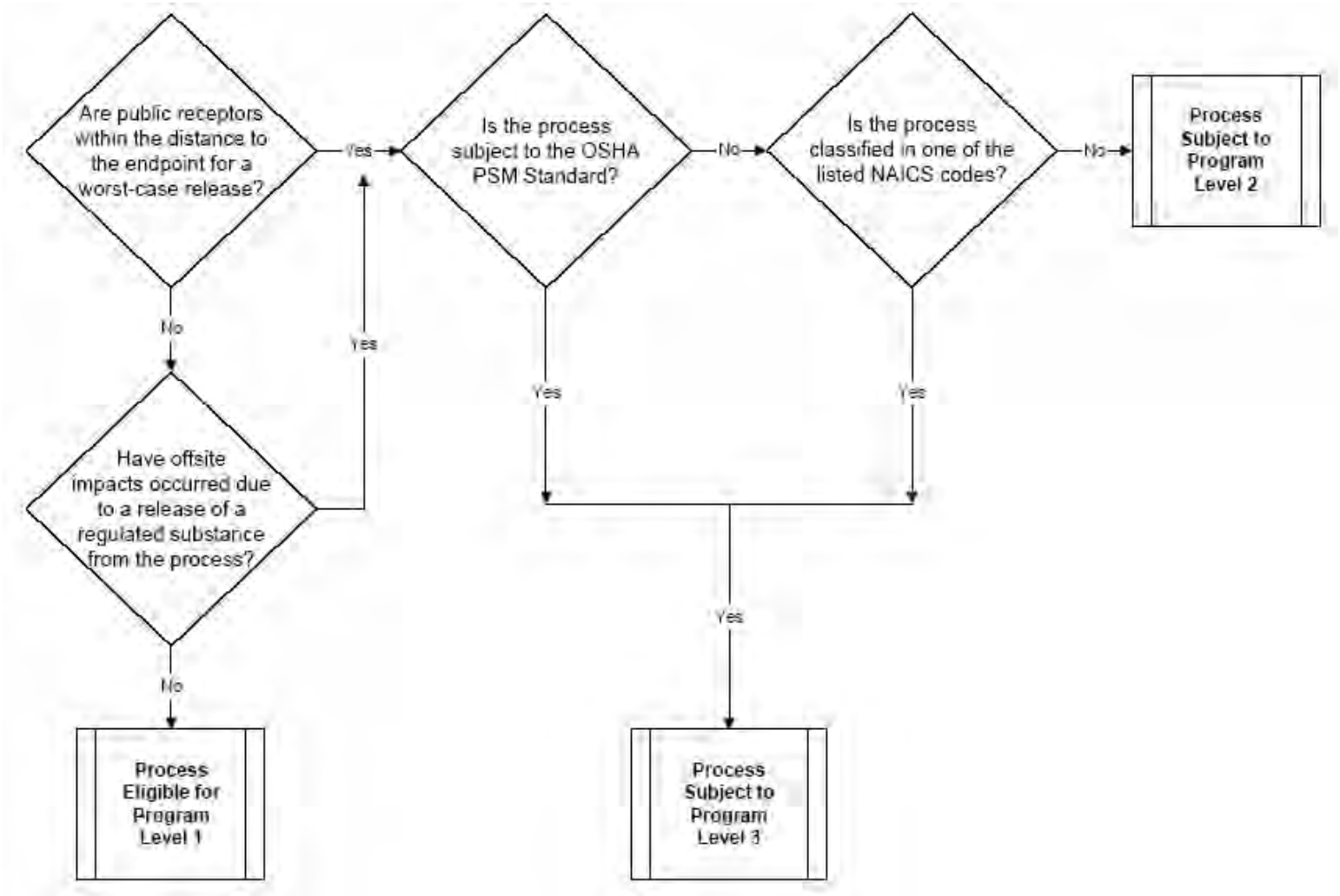
See Exhibit 2-1 for a diagram of the decision rules on determining Program level.

KEY POINTS TO REMEMBER

In determining program level(s) for your process(es), keep in mind the following:

(1) **Each process is assigned to a program level,** which indicates the risk management measures necessary to comply with this regulation for that process, not the facility as a whole. The eligibility of one process for a program level does not influence the eligibility of other covered processes for other program levels.

EXHIBIT 2-1
EVALUATE PROGRAM LEVELS FOR COVERED PROCESS



(2) **Any process that meets the criteria for Program 1 can be assigned to Program 1**, even if it is subject to OSHA PSM or is in one of the NAICS codes listed for Program 3.

(3) **Program 2 is the default program level.** There are no "standard criteria" for Program 2. Any process that does not meet the applicability criteria for either Programs 1 or 3 is subject to the requirements for Program 2.

(4) **Only one Program level can apply to a process.** If a process consists of multiple production or operating units or storage vessels, the highest Program level that applies to any segment of the process applies to all parts.

Q & A
PROCESS AND PROGRAM LEVEL

Q. My process includes a series of interconnected units, as well as several storage vessels that are co-located. Several sections of the process could qualify for Program 1. Can I divide my process into sections for the purpose of assigning Program levels?

A. No, you cannot subdivide a process for this purpose. The highest Program level that applies to any section of the process is the Program level for the whole process. If the entire process is not eligible for Program 1, then the entire process must be assigned to Program 2 or Program 3.

2.2 PROGRAM 1

WHAT ARE THE ELIGIBILITY REQUIREMENTS?

Your process is eligible for Program 1 if:

(1) There are no "public receptors" within a "distance to an endpoint from a worst-case release" (see below explanation of these key terms);

(2) The process has had no release of a regulated substance in the past five years where exposure to the substance, its reaction products, overpressures generated by explosion involving the substance, or radiant heat from a fire involving the substance resulted in one or more offsite deaths, injuries, or response or restoration activities for exposure of an environmental receptor; and

(3) You have coordinated your emergency response activities with the local responders. (This requirement applies to any covered process, regardless of program level.)

WHAT IS A PUBLIC RECEPTOR?

The rule (§ 68.3) defines **public** as "any person except an employee or contractor of the stationary source." Consequently, employees of other facilities that may share your site are considered members of the public even if they share the same physical location. Being "the public," however, is not the same as being a public receptor.

Public receptors include "offsite residences, institutions (e.g., schools and hospitals), industrial, commercial, and office buildings, parks, or recreational areas inhabited or occupied by the public at any time without restriction by the stationary source where members of the public could be exposed to toxic concentrations, radiant heat, or overpressure, as a result of an accidental release." **Offsite** means areas beyond your property boundary and "areas within the property boundary to which the public has routine and unrestricted access during or outside business hours."

The first step in identifying public receptors is determining what is "offsite." For most facilities, that determination will be straightforward. If you restrict access to all of your property all of the time, "offsite" is anything beyond your property boundaries. Ways of restricting access include fully fencing the property, placing security guards at a reception area or using ID badges to permit entry.

If you do not restrict access to a section of your property and the public has routine and unrestricted access to it during or after business hours, that section would be "offsite." For example, if your operations are fenced but the public has unrestricted access to your parking lot during or after business hours, the parking lot is "offsite." In the case of facilities such as hospitals, schools, and hotels that shelter members of the public as part of their function or business, the parts of the facility that are used to shelter the public would be "offsite."

Not all areas offsite are potential public receptors. The point of identifying public receptors is to locate those places where there are likely to be, at least some of the time, members of the public whose health could be harmed by short-term exposure to an accidental release at your site. The basic test for identifying a public receptor is thus whether an area is a place where it is reasonable to expect that members of the public will routinely gather at least some of the time.

The definition of "public receptor" itself specifies the types of areas where members of the public may routinely gather at least some of the time: residences, institutions such as hospitals and schools, buildings in general, parks and recreational areas. There should be little difficulty in identifying residences, institutions and businesses as such, and virtually any residence, institution and business will qualify as a public receptor, even when the property is used only seasonally (as in a vacation home). Notably, a residence includes its yard, if any, and an institution or business includes its grounds to the extent that employees or other members of the public are likely to routinely gather there at least some of the time for business or other purposes (see discussion of recreational areas below). The only circumstances that would justify not considering such a property a public receptor would be where your facility owns or controls the property and restricts access to it, or no member of the public inhabits

or occupies it at any time. Where a hospital, school, hotel or other entity that provides public shelter is itself subject to the part 68 rule, it will be its own public receptor except for those areas where members of the public are not allowed to go at any time.

Buildings other than residences, institutions or businesses are also highly likely to qualify as public receptors since the function of most buildings is at least in part to shelter people. Accordingly, toll booth plazas, transit stations, and airport terminals would qualify as public receptors. For a building not to qualify as a public receptor, one of the circumstances mentioned above would have to apply.

Every designated park or recreational area, or at least some portion thereof, is apt to be a public gathering place by virtue of facilities made available to the public (e.g., visitors' center, playground, golf course, camping or picnic area, marina or ball field) or attributes that members of the public routinely seek to use (e.g., beach). It does not matter whether use of such facilities is seasonal; routine use for at least part of the year would qualify the area as a public receptor.

At the same time, some portion of a designated park or recreational area may not be a public receptor. For instance, a large state or national park may include relatively inaccessible tracts of land that do not contain public facilities or receive routine use. Occasional hiking, camping or hunting in such areas would not qualify the areas as public receptors.

An area need not be designated a recreational area to be one in fact. If an area is routinely used for recreational purposes, even if only seasonally, it is a recreational area for purposes of the part 68 rule. For example, a marina may not bill itself as a "recreational area," but if a marina houses recreational boats, it qualifies as a public receptor. Further, if your facility or a neighboring property owner allows the public to make routine recreational use of some portion of land (e.g., a ball field or fishing pond), that portion of land would qualify as a public receptor.

Roads and parking lots are not included as such in the definition of "public receptor." Neither are places where people typically gather; instead they are used to travel from one place to another or to park a vehicle while attending an activity elsewhere. However, if a parking lot is predictably and routinely used as a place of business (e.g., a farmer's market) or for a recreational purpose (e.g., a county fair), it would qualify as a public receptor.

In general, farm land would not be considered a public receptor. However, if farm land, or a portion thereof, is predictably and routinely occupied by farm workers or other members of public, even if only on a seasonal basis, that portion of the land would be a public receptor.

If you are in doubt about whether to consider certain areas around your facility as public receptors, you should consult with the relevant local officials and land owners and your implementing agency for guidance.

Qs & As
Public Receptors

Q. My processes are fenced, but my offices and parking lot for customers are not restricted. What is considered offsite? What is considered a public receptor?

A. The unrestricted areas would be considered offsite. However, they would not be public receptors because you are responsible for the safety of those who work in or visit your offices and because parking lots are not generally public receptors.

Q. What is considered a recreational area?

A. Recreational areas would include land that is designed, constructed, designated, or used for recreational activities. Examples are national, state, county, or city parks, other outdoor recreational areas such as golf courses or swimming pools and bodies of waters (oceans, lakes, rivers, and streams) when used by the public for fishing, swimming, or boating. Public and private areas that are predictably used for hunting, fishing, bird watching, bike riding, hiking, or camping or other recreational use also would be considered recreational areas. EPA encourages you to consult with land owners, local officials, and the community to reach an agreement on an area's status; your local emergency planning committee (LEPC) can help you with these consultations. EPA recognizes that some judgment is involved in determining whether an area should be considered a recreational area.

Q. Does public receptor cover only buildings on a property or the entire property? If the owner of the land next to my site restricts access to the land, is it still a public receptor?

A. Public receptors are not limited to buildings. For example, if there are houses near your property, both the houses and their yards are considered public receptors because it is likely that residents will be present in one or the other at least some of the time, and, in fact, people are likely to be in more danger if they are outside when a release occurred. The ability of others to restrict access to an area does not change its status as a public receptor. You need to consider whether that land is generally unoccupied. If the land is undeveloped or rarely has anyone on it, it is not a public receptor. If you are not sure of the land's use of occupancy, you should talk with the landowner and the community about its status. Because it is the landowner and members of the local community who are likely to be affected by your decision, you should involve them in the decision is you have doubts.

What is a distance to an endpoint from a worst-case release?

In broad terms, the distance to an endpoint is the distance a toxic vapor cloud, fire, or explosion from an accidental release will travel before dissipating to the point that serious injuries from short-term exposures will no longer occur. The rule establishes "endpoints" for each regulated substance and defines the circumstances of a worst-case release scenario (e.g., release type, rate and duration, weather) (see Chapter 4 or the *Risk Management Program Guidance for Offsite Consequence Analysis* for more information). You will have to define a worst-case release (usually the loss of the total contents of your largest vessel) for each Program 1 process and determine the distance to the endpoint for that release. (EPA has developed

guidance for defining and analyzing worst-case releases; you may also conduct modeling on your own to determine the distance to the endpoint for worst-case releases.) Beyond that endpoint, the effects on people are not considered to be severe enough to merit the need for additional action under this rule.

To define the area of potential impact from the worst-case release, draw a circle on a map, using the process as the center and the distance to the endpoint as the radius. If there are public receptors within that area, your process is not eligible for Program 1.

Q & A
DETERMINING DISTANCES

Q. Our distance to the endpoint for the worst-case release is 0.3 miles. The nearest public receptor is 0.32 miles away. What tools are available to document that the public receptor is beyond the distance to the endpoint so we can qualify for Program 1?

A. The results of any air dispersion model (from EPA's guidance documents or other models) are not precise predictions. They represent an estimate, but the actual distances to the endpoint could be closer to or farther from the point of release. If your distance to the endpoint and distance to a public receptor are so close that you cannot document, using a USGS map, that the two points are different, it would be advisable to comply with the higher Program level. The most detailed maps available from the US Geological Survey (scale of 1:24,000) are accurate enough to map the distances you cite and document that the two points (which are about 100 feet apart) differ. GPS systems may also allow you to differentiate these points.

ACCIDENT HISTORY

To be eligible for Program 1, no release of the regulated substance from the process can have resulted in one or more offsite deaths, injuries, or response or restoration activities at an environmental receptor during the five years prior to submission of your RMP. A release of the regulated substance from another process has no bearing on whether the first process is eligible for Program 1.

WHAT IS AN INJURY?

An injury is defined as "any effect on a human that results either from direct exposure to toxic concentrations; radiant heat; or overpressures from accidental releases or from the direct consequences of a vapor cloud explosion (such as flying glass, debris, and other projectiles) from an accidental release." The effect must "require medical treatment or hospitalization." This definition is taken from the OSHA regulations for keeping employee injury and illness logs and should be familiar to most employers. Medical treatment is further defined as "treatment, other than first aid, administered by a physician or registered professional personnel under standing orders from a physician." The definition of medical treatment will likely capture most instances of hospitalization. However, if someone goes to the hospital following direct exposure to a release and is kept overnight for observation (even if no specific injury or illness is found), that would qualify as hospitalization and so would be considered an injury.

WHAT IS AN ENVIRONMENTAL RECEPTOR?

The environmental receptors you need to consider are limited to natural areas such as national or state parks, forests, or monuments; officially designated wildlife sanctuaries, preserves, refuges, or areas; and Federal wilderness areas. All of these areas can be identified on local U.S. Geological Survey maps.

WHAT ARE RESTORATION AND RESPONSE ACTIVITIES?

The type of restoration and response activity conducted to address the impact of an accidental release will depend on the type of release (volatilized spill, vapor cloud, fire, or explosion), but may include such activities as:

- Collection and disposal of dead animals and contaminated plant life;
- Collection, treatment, and disposal of soil;
- Shutoff of drinking water;
- Replacement of damaged vegetation; or
- Isolation of a natural area due to contamination associated with an accidental release.

Q & A
ENVIRONMENTAL RECEPTORS

Q. Do environmental receptors include areas that are not Federal Class I areas under the CAA?

A. Yes. The list of environmental receptors in Part 68 includes areas in addition to those that qualify as Federal Class I areas under CAA section 162. Under Part 68, national parks, monuments, wilderness areas, and forests are environmental receptors regardless of size. State parks, monuments, and forests are also environmental receptors.

DOCUMENTING PROGRAM 1 ELIGIBILITY

For every Program 1 process at your facility, you must keep records documenting the eligibility of the process for Program 1. For each Program 1 process, your records should include the following:

- A description of the worst-case release scenario, which must specify the vessel or pipeline and substance selected for worst-case analysis, assumptions and parameters used, and the rationale for selection. Assumptions may include use of any administrative controls and any passive mitigation that would limit the quantity that could be released;

- Documentation of the estimated quantity of the worst-case release, release rate, and duration of release;
- The methodology used to determine distance to endpoints;
- Data used to determine that no public receptor would be affected; and
- Information on your coordination with public responders.

2.3 QUICK RULES FOR DETERMINING PROGRAM 1 ELIGIBILITY

You generally will not be able to predict with certainty that the worst-case scenario for a particular process will meet the criteria for Program 1. Processes containing certain substances, however, may be more likely than others to be eligible for Program 1, and processes containing certain other substances may be very unlikely to be eligible for Program 1 because of the toxicity and physical properties of the substances. The information presented below may be useful in identifying processes that may be eligible for Program 1.

TOXIC GASES

If you have a process containing more than a threshold quantity of any regulated toxic gas that is not liquefied by refrigeration alone (i.e., you hold it as a gas or liquefied under pressure), the distance to the endpoint estimated for a worst-case release of the toxic gas will generally be several miles. As a result, the distance to endpoint is unlikely to be less than the distance to public receptors, unless the process is very remote. In some cases, however, toxic gases in processes in enclosed areas may be eligible for Program 1.

REFRIGERATED TOXIC GASES

If you have a process containing anhydrous ammonia liquefied by refrigeration alone, and your worst-case release would take place into a diked area, the chances are good that the process may be eligible for Program 1, unless there are public receptors very close to the process. Even if you have many times the threshold quantity of ammonia, the process may still be eligible for Program 1.

If you have a process containing ethylene oxide, anhydrous hydrogen fluoride, or methyl chloride liquefied by refrigeration alone, and the release would take place into a diked area, the process may be eligible for Program 1, depending on the size of the diked area, the quantity of the regulated substance, and the location of public receptors.

The worst-case analysis for a process containing chlorine liquefied by refrigeration is unlikely to show eligibility for Program 1, unless your site is extremely remote from the public or the release would occur within an enclosure.

Qs & As
Accident History

Q. What is the relationship between the accident history criteria for Program 1 and the five-year accident history? If my process is eligible for Program 1, do I still need to do a five-year accident history?

A. The five-year accident history is an information collection requirement that is designed to provide data on all serious accidents involving release of a regulated substance from a covered process.

In contrast, the Program 1 accident history criteria focus on accidents causing offsite harm of the most serious kind: death or injury of persons or significant harm to a public receptor. Onsite effects, shelterings-in-place, and evacuations that have occurred must be reported in the five-year accident history, but they are not considered in determining Program 1 eligibility. Therefore, it is possible for process to be eligible for Program 1 and still have experienced a release that must be reported in the accident history for the source.

Q. A process with more than a threshold quantity of a regulated substance had an accident with offsite consequences three years ago. After the accident, we altered the process to reduce the quantity stored on site, although the quantity still exceeds the threshold quantity. Now the worst-case release scenario indicates that there are no public receptors within the distance to an endpoint. Can this process qualify for Program 1?

A. No, the process cannot qualify for Program 1 until five years have passed since any accident with consequences that disqualify a process for Program 1.

Toxic Liquids

The distance to an endpoint for a worst-case release involving toxic liquids kept under ambient conditions may be smaller than the distance to public receptors in a number of cases. If public receptors are not found very close to the process (within ½ mile), the process may be eligible for Program 1. However, small-sized facilities are highly unlikely to meet to be eligible for Program 1 if they are in a developed area. Remotely located facilities or processes found near the center of large (acreage) sites are more likely to be eligible.

Substances that are potential candidates to be in processes that are eligible for Program 1 are noted below. Generally, processes that contain toxic liquids at elevated temperatures, including the toxic liquids listed below, would be less likely to be eligible for Program 1 than those at ambient temperature, and processes in diked areas are more likely to be eligible for Program 1 than those in undiked areas.

For processes containing toluene diisocyanate (including toluene 2,4-diisocyanate, toluene 2,6-diisocyanate, and unspecified isomers) or ethylene diamine, the worst-

case analysis of a spill of more than a threshold quantity into an undiked area under ambient conditions is likely to demonstrate eligibility for Program 1. If the area of the spill is diked, even processes containing very large quantities of these substances may be eligible for Program 1. In addition, processes containing the following toxic liquids under ambient conditions are likely to be eligible for Program 1 if a spill would take place in a diked area and public receptors are not close to the process:

- Chloroform
- Cyclohexylamine
- Hydrazine
- Isobutyronitrile
- Isopropyl chloroformate
- Oleum
- Propylene oxide
- Titanium tetrachloride
- Vinyl acetate monomer

WATER SOLUTIONS OF TOXIC SUBSTANCES

The list of regulated substances includes several common water solutions of toxic substances. Processes containing such solutions at ambient temperatures may be eligible for Program 1 (depending in some cases on the concentration of the solution), if spills would be contained in diked areas and public receptors are not located close to the process (within ½ mile). As noted above, small-sized facilities in developed areas are highly unlikely to be eligible for Program 1; remotely located facilities or processes found near the center of large (acreage) sites are more likely to be eligible.

Processes containing the following water solutions under ambient conditions may be eligible for Program 1, assuming diked areas that would contain the spill:

- Ammonia in solution
- Formaldehyde (commercial concentrations)
- Hydrofluoric acid (concentration 50 to 70 percent)
- Nitric acid (commercial concentrations)
- Oleum

FLAMMABLE SUBSTANCES

Many processes containing regulated flammable substances are likely to be eligible for Program 1, unless there are public receptors within a very short distance. If you have a process containing up to about 20,000 pounds (twice the threshold quantity) of a regulated flammable substance (other than hydrogen), your process is likely to be eligible for Program 1 if you have no public receptors within about 400 yards (1,200 feet) of the process. If you have up to 100,000 pounds in a process (ten times the threshold quantity), the process may be eligible for Program 1 if there are no public receptors within about 700 yards (2,000 feet). In general, it would be worthwhile to conduct a worst-case analysis for any processes containing only flammables to determine Program 1 eligibility, unless you have public receptors very close to the process. Consequently, you may have to conduct more worst-case

analyses if you want to qualify processes for Program 1; for Program 2 and 3 processes, you need analyze only one worst-case release scenario to cover all flammables. For Program 1, you must be able to demonstrate, through your worst-case analysis, that every process you claim is Program 1 meets the criteria.

2.4 PROGRAM 3

Any covered process that is not eligible for Program 1 and meets one of the two criteria specified below is subject to Program 3 requirements, which include risk management measures and requirements virtually identical to the OSHA PSM Standard.

WHAT ARE THE ELIGIBILITY CRITERIA FOR PROGRAM 3?

Your process is subject to Program 3 if:

- Your process does not meet the eligibility requirements for Program 1, and
- Either
  - (a) Your process is subject to OSHA PSM (federal or state); or
  - (b) Your process is in one of ten NAICS codes specified in part 68.

WHAT IS THE OSHA PSM STANDARD?

The OSHA Process Safety Management standard (codified at 29 CFR 1910.119) is a set of procedures in thirteen management areas designed to protect worker health and safety in case of accidental releases. Similar to EPA's rule, OSHA PSM applies to a range of facilities that have more than a threshold quantity of a listed substance in a process. All processes subject to this rule and the OSHA PSM standard (federal or state) and not eligible for Program 1 are assigned to Program 3 because the Program 3 prevention program is virtually identical to the elements of the PSM standard. If you are already complying with OSHA PSM for a process, you probably will need to take few, if any, additional steps and develop little, if any, additional documentation to meet the requirements of the Program 3 prevention elements (see Chapter 8 for a discussion of differences between Program 3 prevention and OSHA PSM). EPA placed all covered OSHA PSM processes in Program 3 to eliminate the possibility of imposing overlapping, inconsistent requirements on the same process.

WHAT ARE THE TEN NAICS CODES? (§ 68.10)

Program 3 requirements are applicable to a covered process if the process is in one of ten manufacturing NAICS codes: 32211, 32411, 32511, 325181, 325188, 325192, 325199, 325211, 325311, or 32532. These NAICS codes were selected based on an analysis of accidental release data and represent activities for which a relatively high

proportion of sources reported releases. The following are the NAICS codes and the associated activity:

NAICS Code	Industry
32211	Pulp mills
32411	Petroleum refineries
32511	Petrochemical manufacturing
325181	Alkalies and chlorine manufacturing
325188	All other basic inorganic chemical manufacturing
325192	Cyclic crude and intermediate manufacturing
325199	All other basic organic chemical manufacturing
325211	Plastics material and resin manufacturing
325311	Nitrogenous fertilizer manufacturing
32532	Pesticide and other agricultural chemical manufacturing

HOW DO I DEFINE A NAICS CODE FOR A PROCESS?

Unless you have only one process, you probably have not previously needed to assign a NAICS code to each of your processes. If your covered process includes several industrial activities, you will need to determine the primary NAICS code for assigning Program level based on the primary activity of the process. If the process covers multiple industrial activities, you may list several NAICS codes for the process on the registration part of the RMP. Even if a process is considered a support activity for your main production (e.g., your warehouse or wastewater treatment system), you must assign it a separate, appropriate code (e.g., 56221 for waste treatment) to determine if it is subject to Program 3.

This assignment does not affect your ability to consider such support processes as part of the same industrial group for purposes of defining your stationary source; the two decisions are separate.

NAICS CODES FOR A PROCESS VS. PRIMARY FACILITY NAICS CODE

For purposes of determining program levels, you must identify the applicable NAICS codes for each individual process. Unless you have only one process, there may not be a relationship between the covered process NAICS code(s) and your facility's primary NAICS code. The primary NAICS code for your facility may be similar to the NAICS codes that you determine for several if not all of your processes, but the primary NAICS code for the facility should not be used as a default value or to identify a NAICS code for a single process. The primary NAICS code for the facility is assigned based on the activity that contributes the largest percentage of your revenue and is the code you use when you complete Census forms.

2.5 PROGRAM 2

Program 2 is considered a default program level because any covered process that is not eligible for Program 1 or assigned to Program 3 is, by default, subject to Program 2 requirements, including a streamlined accident prevention program. One or more processes at your facility are likely to be in Program 2 if:

- You are a retailer and do not perform any chemical processing activities, such as an agricultural fertilizer retailer.
- You are a publicly owned facility in a state that does not have a delegated OSHA program.
- You use regulated acids in solution in activities that do not fall into one of the ten NAICS codes specified for Program 3.
- You store regulated liquid flammable substances in atmospheric storage tanks for use as a feedstock or for sale to retailers.

WHAT ARE THE ELIGIBILITY CRITERIA FOR PROGRAM 2?

Your process is subject to Program 2 if:

- Your process does not meet the eligibility requirements for Program 1;
- Your process is not subject to OSHA PSM (federal or state); and
- Your process is not categorized in NAICS code 32211, 32411, 32511, 325181, 325188, 325192, 325199, 325211, 325311, or 32532.

When determining what program level is appropriate for your covered process, keep in mind that if it does not meet the Program 1 criteria, if it is not covered by OSHA PSM, and it is not classified in the NAICS codes listed above, the process automatically is subject to Program 2 requirements.

Exhibit 2-2 provides a summary of the criteria for determining Program level.

EXHIBIT 2-2
PROGRAM LEVEL CRITERIA

Program 1	Program 2	Program 3
No accidents in the previous five years that resulted in any offsite: Death Injury Response or restoration activities at an environmental receptor	The process is not eligible for Program 1 or subject to Program 3.	Process is not eligible for Program 1.
No public receptors in worst-case circle.		Process is subject to OSHA PSM.
Emergency response coordinated with local responders.		Process is classified in NAICS code 32211 - Pulp Mills 32411 - Petroleum Refineries 32511 - Petrochemical Manufacturing 325181 - Alkalies and Chlorine Manufacturing 325188 - All Other Basic Inorganic Chemical Manufacturing 325192 - Cyclic Crude and Intermediate Manufacturing 325199 - All Other Basic Organic Chemical Manufacturing 325211 - Plastics Material and Resin Manufacturing 325311 - Nitrogenous Fertilizer Manufacturing 32532 - Pesticide and Other Agricultural Chemical Manufacturing

2.6 DEALING WITH PROGRAM LEVELS

WHAT IF I HAVE MULTIPLE PROGRAM LEVELS?

If you have more than one covered process, you may be dealing with multiple program levels in your risk management program.

If your facility has processes subject to different program levels, you will need to comply with different program requirements for different processes. Nevertheless, you must submit a single RMP for all covered processes.

If you prefer, you may choose to adopt the most stringent applicable program level requirements for all covered processes. For example, if you have three covered processes, one eligible for Program 1 and two subject to Program 3, you may find it administratively easier to follow the Program 3 requirements for all three covered

processes. Remember, though, that this is only an option; we expect that most sources will comply with the set of program level requirements for which each process is eligible.

Qs & As
OSHA

Q. If my state administers the OSHA program under a delegation from the federal OSHA, does that mean that my processes that are subject to OSHA PSM under the state rules are in Program 3?

A. Yes, as long as the process does not qualify for Program 1. Any process subject to PSM, under federal or state rules, is considered to be in Program 3 unless it qualifies for Program 1.

Q. I am a publicly owned facility in a state with a delegated OSHA program. Why are my processes considered to be in Program 3 when the same processes in a state where federal OSHA runs the program are in Program 2?

A. Federal OSHA cannot impose its rules on state or local governments, but when OSHA delegates its program to a state for implementation, the state imposes the rules on itself and local governments. Because these governments are complying with the identical OSHA PSM rules imposed by federal OSHA, they are subject to Program 3. In meeting their obligations under state OSHA rules, they are already substantially in compliance with the Program 3 prevention program requirements. State and local governments in non-state-plan states are not subject to any OSHA rules and must comply with Program 2.

CAN THE PROGRAM LEVEL FOR A PROCESS CHANGE?

A change in a covered process or in the surrounding community can result in a change in the program level of the process. If this occurs, you must submit an updated RMP within six months of the change that altered the program level for the covered process. If the process no longer qualifies as a covered process (e.g., as a result of a change in the quantity of the regulated substance in the process), you must update and re-submit your RMP within six months indicating that the process is no longer subject to any program level requirements. If it is your only covered process, you are no longer subject to the Part 68 regulations and will need to "deregister" your RMP (see Chapter 9 for more information). Typical examples of switching program levels include:

MOVING UP

From Program 1 to Program 2 or 3. You have a covered process subject to Program 1 requirements. A new residential development results in public receptors being located within the distance to the endpoint for a worst-case release for that process. The process thus is no longer eligible for Program 1 and must be evaluated to determine whether Program 2 or Program 3 applies. You must update and re-submit your RMP within six months of the program level change, indicating and

documenting that your process is now in compliance with the new program level requirements.

From Not Covered to Program 1, 2 or 3. You have a process that was not originally covered by part 68, but, due to a planned expansion in production, you plan to increase the amount of regulated substance in the process to a level that will exceed the threshold quantity for that substance. You must determine which program level applies and come into compliance with the rule by the time you increase the amount of regulated substance in the process to a level exceeding the threshold quantity.

From Program 2 to Program 3. You have a process that involves a regulated substance above the threshold that is not in one of the ten NAICS codes specified for Program 3 and that had not been subject to OSHA PSM. However, due to one of the following OSHA regulatory changes, the process is now subject to the OSHA PSM standard:

- An OSHA PSM exemption applicable to your process has been eliminated, or
- The regulated substance has been added to OSHA's list of highly hazardous substances.

As a result, the process becomes subject to Program 3 requirements and you must update and re-submit your RMP to EPA within six months, indicating and documenting that your process is now in compliance with the Program 3 requirements.

SWITCHING DOWN

From Program 2 or 3 to Program 1. At the time you submit your RMP, you have a covered process subject to Program 2 or 3 requirements because it experienced an accidental release of a regulated substance with offsite impacts four years ago. Subsequent process changes have made such an event unlikely (as demonstrated by the worst-case release analysis). One year after you submit your RMP, the process has not experienced an accident for five years, so it is now eligible for Program 1. If you elect to qualify the process for Program 1, you must update and re-submit your RMP within six months of the program level change, indicating and documenting that the process is now in compliance with the new program level requirements.

From Program 2 or 3 to Not Covered. You have a covered process that has been subject to Program 2 or 3 requirements, but due to a reduction in production, the amount of a regulated substance it holds no longer exceeds the threshold. Therefore, the process is no longer a covered process. You must update and re-submit your RMP within six months indicating that your process is no longer subject to any program level requirements. If this was your only covered process, you must "deregister" your RMP.

2.7 SUMMARY OF PROGRAM REQUIREMENTS

Regardless of the program levels of your processes, you must complete a five-year accident history for each process (see Chapter 3) and submit an RMP that covers all processes (see Chapter 9). Depending on the program level of each of your processes, you must comply with the additional requirements described below. Exhibit 2-3 diagrams the requirements in general and Exhibit 2-4 lists them in more detail.

PROGRAM 1

For each Program 1 process, you must conduct and document a worst-case release analysis. You must coordinate your emergency response activities with local responders and sign the Program 1 certification as part of your RMP submission.

PROGRAMS 2 AND 3

For all Program 2 and 3 processes, you must conduct and document at least one worst-case release analysis to cover all toxics and one to cover all flammables. You may need to conduct additional worst-case release analyses if worst-case releases from different parts of your facility would affect different public receptors. You must also conduct one alternative release scenario analysis for each toxic and one for all flammables. See Chapter 4 or the *RMP Offsite Consequence Analysis Guidance* for specific requirements. You must coordinate your emergency response activities with local responders and, if you use your own employees to respond to releases, you must develop and implement an emergency response program. See Chapter 8 for more details.

For each Program 2 process, you must implement all of the elements of the Program 2 prevention program: safety information, hazard review, operating procedures, training, maintenance, compliance audits, and incident investigations. See Chapter 6 for more details.

For each Program 3 process, you must implement all of the elements of the Program 3 prevention program: process safety information, process hazard analysis, standard operating procedures, training, mechanical integrity, compliance audits, incident investigations, management of change, pre-startup reviews, contractors, employee participation, and hot work permits. See Chapter 7 for more details.

EXHIBIT 2-3
DEVELOP RISK MANAGEMENT PROGRAM AND RMP

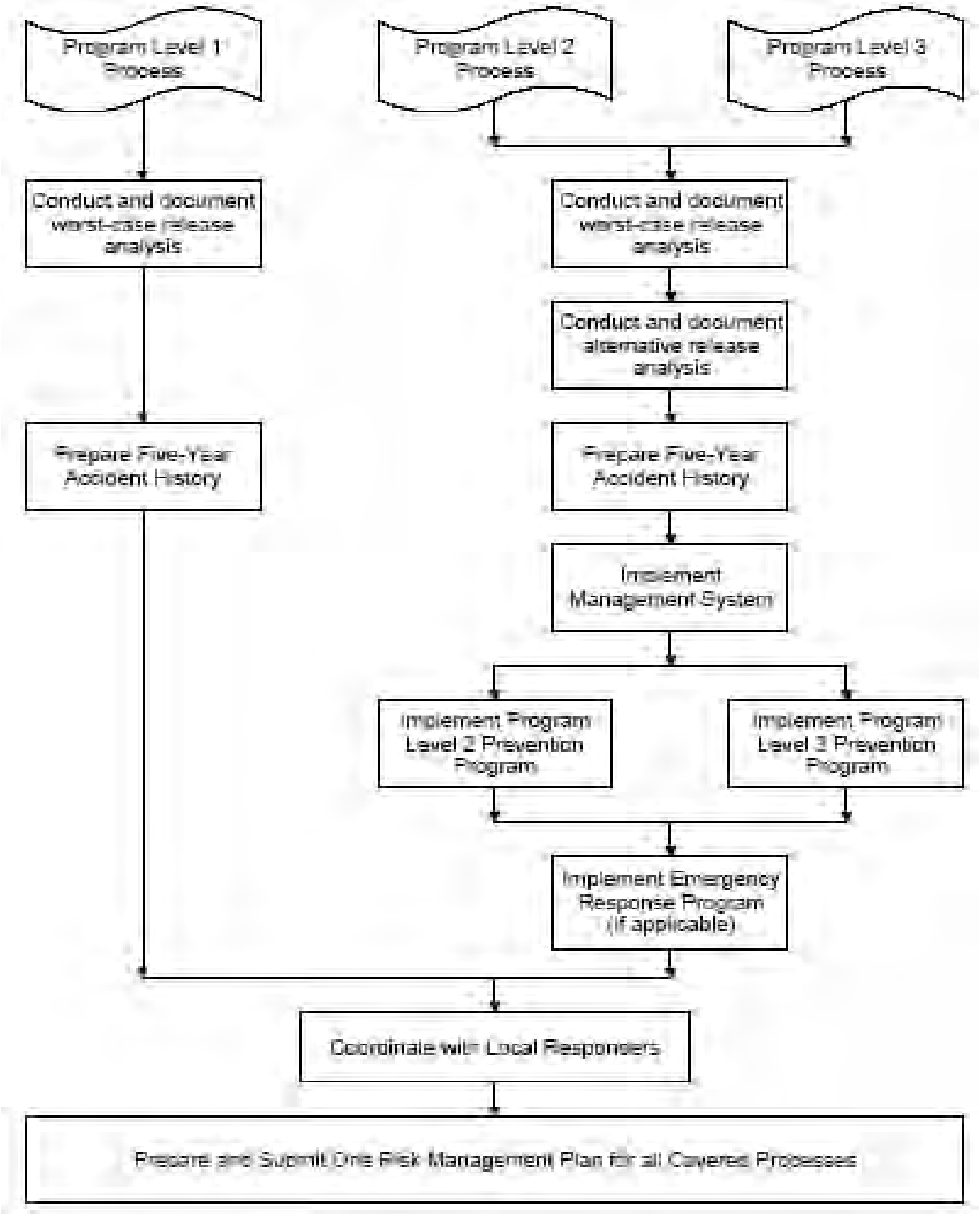


EXHIBIT 2-4 COMPARISON OF PROGRAM REQUIREMENTS		
Program 1	**Program 2**	**Program 3**
Worst-case release analysis	Worst-case release analysis	Worst-case release analysis
	Alternative release analysis	Alternative release analysis
5-year accident history	5-year accident history	5-year accident history
	Document management system	Document management system
Prevention Program		
Certify no additional prevention steps needed	Safety Information	Process Safety Information
	Hazard Review	Process Hazard Analysis.
	Operating Procedures	Operating Procedures
	Training	Training
	Maintenance	Mechanical Integrity
	Incident Investigation	Incident Investigation
	Compliance Audit	Compliance Audit
		Management of Change
		Pre-Startup Review
		Contractors
		Employee Participation
		Hot Work Permits
Emergency Response Program		
Coordinate with local responders	Develop plan and program and coordinate with local responders	Develop plan and program and coordinate with local responders
Submit One Risk Management Plan for All Covered Processes		

2.8 EXAMPLE SOURCES

The six sources described in this section will be used in this document to highlight important stages in developing a risk management program.

Source A

A chemical distribution facility stores isopropylamine in 55-gallon drums inside a warehouse. The facility stores a total of 80 drums in close proximity to each other, so they are considered "co-located" and their contents are added together to determine if the applicable threshold quantity is exceeded. Since the total quantity in the co-located drums exceeds the applicable threshold quantity of 10,000 pounds, the warehouse is a covered process.

The warehouse is located 50 yards inside the facility fence line and the nearest public receptor (another industrial facility) is 100 yards from the fence line. The distance to the overpressure endpoint for a worst-case release from a single 55-gallon drum is approximately 0.05 miles or 88 yards. There is no public receptor within the distance to an endpoint from a worst-case release, and the process had no accidental releases of isopropylamine resulting in offsite impacts in the last five years. The process is eligible for Program 1.

Source B

An agricultural retailer located in a commercial area has a 200-ton tank of anhydrous ammonia and an 18,000-gallon propane tank. The retailer unloads both ammonia and propane from these bulk tanks into smaller tanks that are then transported to farms. The factory is not fenced. The facility is within 0.15 mile of residences and the business center of a small town.

The facility has one covered process: the 200-ton tank of ammonia. Because propane is a flammable fuel and the facility is a retailer, the propane is not subject to part 68. A worst-case release analysis finds that the worst-case release of ammonia will potentially impact the residences and the business center of town. The facility is not subject to OSHA PSM, nor is the ammonia storage categorized in one of the ten listed NAICS codes for Program 3. As a result, the process is subject to Program 2.

Source C

A bulk products terminal has co-located petroleum product tanks containing 10,000,000 pounds of a regulated flammable mixture in one area, and co-located chemical tanks containing 500,000 pounds of toluene diisocyanate in another area. The facility serves as a wholesale supplier to industrial facilities in the surrounding area for these and other (non-regulated) petroleum and industrial chemical products. The facility is within 0.2 mile of another industrial facility.

The facility has two covered processes: the flammable mixture tanks (Process A) and the toluene diisocyanate tanks (Process B). A worst-case release analysis finds that the worst-case release from Process A will potentially impact the adjacent industrial facility, but the worst case release from Process B will not impact any offsite receptors. Process A is subject to OSHA PSM, but Process B is not subject to OSHA PSM. Therefore, Process A is subject to Program 3 and Process B is eligible for Program 1. If Process B had been subject to OSHA PSM, it would also be subject to Program 3.

Source D

A metal products manufacturer stores hydrochloric acid (37 percent solution) and uses it in its plating process, which is connected to a storage tank that holds 50,000 pounds of the solution. Hydrochloric acid is delivered in tank trucks and unloaded into the storage tank. The manufacturer also operates a wastewater treatment plant that uses chlorine, supplied from five, interconnected one-ton tanks, which are stored in a rack. The facility is in an industrial area and borders directly on another industrial facility, whose workers park in the area close to the fence line. In addition, a river borders one side of the facility.

The facility has two covered processes: the 50,000-pound tank of hydrochloric acid at 37 percent (Process A) and the process involving five interconnected one-ton tanks of chlorine in the wastewater treatment plant (Process B). A worst-case release analysis finds that the worst-case releases from both processes will potentially impact the bordering industrial facility and its workers. Process B is subject to the OSHA PSM standard, but Process A is not. Process A is also not categorized in one of the ten listed NAICS codes for Program 3. Therefore, Process B is subject to Program 3 and Process A is subject to Program 2.

Source E

An inorganic chemical manufacturer uses hydrofluoric acid in solution to manufacture fluoroboric acid at a site that is approximately 500 yards square. It also has a water treatment plant using chlorine. The manufacturer stores 10 tons of 70 percent HF solution, which is piped to the reactor vessels. The wastewater treatment plant stores an average of ten one-ton tanks of chlorine together on a rack. The plant is in an industrial area. The HF storage tank is 150 yards from the property boundary. The nearest neighboring building or workers are 300 yards away.

The facility has two covered processes: the process involving the 10-ton tank of hydrofluoric acid at 70 percent (Process A) and process involving the ten co-located one-ton tanks of chlorine in the wastewater treatment plant (Process B). A worst-case release analysis finds that the worst-case releases from both processes will potentially impact the neighboring buildings and workers. Process B is subject to the OSHA PSM standard, but Process A is not. Process A activities are categorized in NAICS code 325188. Therefore, both processes are subject to Program 3.

Source F

A large chemical manufacturer operates a site that is approximately a half mile wide and two miles long, with a major river on one long side and a four-lane road on the other. There are industrial facilities on the other side of the road and river (a half-mile wide); neighboring facilities' fence lines abut the company's property boundary. The company maintains a 300-yard buffer zone on each narrow end of the facility and 50-yard buffer between its processes and the road and river. The company manufactures a variety of chemicals, including chloroform, chorine, epichlorohydrin, ethylene, HCl, hydrogen cyanide, TDI, methyl chloride, phosgene, and propylene, all of which are present above threshold quantities in process vessels and storage tanks. The TDI process and storage tanks are located at the center of the facility. The ethylene and propylene tanks are located 500 yards from the river bank. A propane tank, used as a backup fuel source, is located just inside the buffer zone, 50 yards from the highway and 100-yards from the entrance of a facility across the highway.

Although the facility has a number of separate production and storage units, several of the units with regulated toxic substances are considered to be co-located and, therefore, are one process. The propylene and ethylene tanks are far enough apart to be considered separate processes. A worst-case release analysis determines that both of these tanks have no public receptors within the distances to their endpoint. The TDI process is not co-located or interconnected to any other covered process. A worst-case release analysis determines that the TDI process's worst-case release would reach its endpoint within the fenceline. None of these three processes has experienced a release of a regulated substance during the past five years that resulted in any offsite consequences. Each of these is, therefore, eligible for Program 1. The propane tank also is not co-located with any other covered vessel. Because it is used as a backup fuel for buildings on site, it is not subject to the RMP regulation. The other processes are subject to Program 3 because at least one of the production or storage units in each process is subject to OSHA PSM, and their worst-case scenarios would impact public receptors.